

**Notice of Allowability**

Application No.

10/783,839

Examiner

Ted Kim

Applicant(s)

ANDERSON, JACK H.

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3746

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date ____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>04/19/2004</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                 | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance             |
|  | 9. <input type="checkbox"/> Other ____.  |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thomas Hilliard on 10/14/05.

The application has been amended as follows:

#### *Specification*

On page 1, first line, the following has been inserted. --This application is a Continuation-In-Part of US application 10/314,101, filed December 7, 2002, now U.S. Patent 6,854,260, published February 15, 2005.--

On page 22, the 2<sup>nd</sup> full paragraph, line 5, "heir" has been replaced by --their--.

On page 25, last line before "translate" --to-- has been inserted.

#### *Claims*

The claims have been amended as below:

1. (amended) In a nozzle for a jet engine having an existing first stage mixer which includes a number of first stage lobes, the improvement comprising a second stage mixer adapted for engagement to the first stage mixer, said second stage mixer having a plurality of substantially identical second stage mixer lobes which equal in number those of the first stage lobes; said second stage mixer lobes increasing in height from a circular configuration adjacent to the first stage mixer, to an undulating configuration defining a terminus area of said second stage mixer; and means [to] for adjusting individual lobe dimensions and thereby adjusting the total area of said terminus area.

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3. (amended) The improvement according to claim 1 wherein said means [to] for adjusting individual lobe dimensions and thereby adjusting the total area of said terminus area comprises: each said second stage mixer lobe having a substantially curved shape defined by two communicating sides curving around a center axis; and means to translate said two sides away from said center axis and thereby alter lobe dimension and said area of said terminus area.

7. (amended) The improvement according to claim 4 wherein adjustment of said means [to] for adjusting individual lobe dimensions and thereby adjusting the total area of said terminus area concurrently provides an opposite total size adjustment of said exit apertures thereby providing said means to adjust the total area of said exit apertures.

8. (amended) The improvement according to claim 6 wherein adjustment of said means [to] for adjusting individual lobe dimensions and thereby adjusting the total area of said terminus area concurrently provides an opposite total size adjustment of said exit apertures thereby providing said means to adjust the total area of said exit apertures.

9. (amended) The improvement according to claim 6 wherein adjustment of said means [to] for adjusting individual lobe dimensions and thereby adjusting the total area of said terminus area concurrently provides an opposite total size adjustment of said exit apertures thereby providing said means to adjust the total area of said exit apertures.

10. (amended) The improvement according to claim 1 wherein said means [to] for adjusting individual lobe dimensions and thereby adjusting the total area of said terminus area comprises: a rod spacer assembly having a first end engaged with a second end; second stage mixer lobes defined by a first wall intersecting a second wall; said first end adapted for cooperative engagement with said first wall and said second end adapted for cooperative engagement with said second end; and means to laterally translate said first end of said rod spacer toward or away from said second end.

11. (amended) The improvement according to claim 2 wherein said means [to] for adjusting individual lobe dimensions and thereby adjusting the total area of said terminus area comprises: a rod spacer assembly having a first end engaged with a second end; second stage mixer lobes defined by a first wall intersecting a second wall; said first end adapted for cooperative engagement with said first wall and said second end adapted for cooperative engagement with said second end; means to laterally translate said first end of said rod spacer toward or away from said second end.

12. (amended) The improvement according to claim 3 wherein said means [to] for adjusting individual lobe dimensions and thereby adjusting the total area of said terminus area comprises: a rod spacer assembly having a first end engaged with a second end; said

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first end adapted for cooperative engagement with one of said two sides and said second end adapted for cooperative engagement with the other of said two sides; and means to laterally translate said first end of said rod spacer toward or away from said second end.

16. (amended) The improvement according to claim 10 additionally comprising: means to tensionally encircle said second stage mixer adjacent to said terminus area.

17. (amended) The improvement according to claim 11 additionally comprising: means to tensionally encircle said second stage mixer adjacent to said terminus area.

18. (amended) The improvement according to claim 12 additionally comprising: means to tensionally encircle said second stage mixer adjacent to said terminus area.

### REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance: in order to avoid any ambiguity the claim language has been amended to clearly point out that the 35 USC 112, 6<sup>th</sup> paragraph is being invoked. Consequently, Torkelson et al (5,440,875) teach in Fig. 7A a wall brace 64 in an analogous location that strengthens the lobe structure and reduces resonance (col. 6, lines 19+); in an alternative embodiment Fig. 8, the struts 66 provide rigid support and adjustability for the nozzle lobes (col. 6, lines 39+). Stachowiak et al teach struts 30, S1, S3, S3, etc. are welded in place (col. 3, lines 33+). These struts/wall braces would be inherently adjustable in the sense that slight variations in the length or varying the vertical positioning would result in variations in the area of each chute and thereby the terminus area. However, these struts/wall braces will not read on the structure of the specification nor are they deemed to be equivalents thereof as they are rigid assemblies whereas the disclosed means are each individually adjustable prior to being locked into position and thus vary the area. Hence, they are not

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equivalents under the function/way/result test. Sprunger teaches a variable means 21 or 55 for adjusting positioning but is in an entirely non analogous field of endeavor and there would be no reasonable motivation to merely employ the adjustable structure in the environment of lobed mixers.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Contact Information*

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are 571-273-8300 for Regular faxes and 571-273-8300 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



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